

REMARKS

Claims 1-21 are pending herein. In the Office Action, the disclosure was objected to based on an informality, claims 16-18 were rejected under 35 U.S.C. §102(e) as being anticipated by Kuwano, and claims 1, 2, 16 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bojer in view of Banu.

Claims 13-15 were allowed. Claims 3-12, 20 and 21 were objected to as being dependent upon a rejected base claim, but were otherwise considered allowable.

The disclosure was objected to because of a blank denoting a serial number on page 1, line 10, in the "Cross-Reference to Related Application(s)" section. The blank is replaced herein with the appropriate serial number "09/747,138" to complete the cross-reference information. Applicant requests withdrawal of this objection.

Claim 16 is amended herein to recite that the clock generator provides a single-ended clock signal, that the clock splitter splits the single-ended clock signal into first and second differential clock signals, that the first and second phase shifting networks develop first and second differential carrier signals, respectively, and that the phase detector asserts the phase error signal based on relative phase between the first and second differential carrier signals. Typographical errors are also corrected, in which the word "clock" is replaced with "carrier" as originally intended and a missing word "is" is added for grammatical correctness.

Kuwano does not show a clock splitter that splits the single-ended clock signal into first and second differential clock signals; Kuwano does not show first and second phase shifting networks that develop first and second differential carrier signals,

respectively; and Kuwano does not show a phase detector that asserts a phase error signal based on relative phase between the first and second differential carrier signals. Applicant submits that the rejection of claim 16 has been overcome and should be withdrawn. Claim 17 is amended in accordance with the amendments of claim 16. Claims 17 and 18 are allowable as depending upon an allowable base claim. Applicant requests withdrawal of these rejections.

Applicant respectfully traverses the §103(a) rejection of claims 1, 2, 16 and 19 based on Bojer in view of Banu.

The Examiner states that Banu's circuits 262, 264 and 260 are a "phase error detector" which compares peak values and adjusts the time constraints of the phase shifting circuit via Vc. Applicant respectfully submits that this is not true. As clearly described in Banu beginning col. 4, line 65 to col. 5, line 40, the circuits 262, 264 are peak detectors sensing a signal magnitude differential, which is detected by differential amplifier 260 for correcting magnitude, not phase. In other words, Banu's feedback circuit is for the purpose of correcting magnitude and not phase or timing. This conforms with the purpose of Banu's "balanced" phase splitting circuit. Please note the background language in col. 2, lines 28-30, in which it is stated that "even though JFETs can be externally tuned such that the two output signals are in quadrature relation, the two output signals will no longer be of equal magnitude." Thus, it appears that Banu externally tunes the JFETs to achieve timing balance, but relies on the circuits 262, 264 and 260 (along with the requirement of identical electrical properties capacitors and resistors, col. 5, lines 32 - 40) to achieve magnitude balance rather than timing correction.

It was stated in the Office Action that the phase splitter in Banu was probably that used by Bojer. It was further stated in the Office Action that LO “appears to be single ended in figure 2” so that Bojer “must have converted it to differential form in circuit 42.” These two assumptions appear to be inconsistent. Banu’s balanced phase splitting circuit uses a differential input VIN and -VIN on terminals 102, 104 (see FIG. 2) and there is no discussion of conversion from single-ended to differential in either reference.

In this manner, Banu does not show a “phase error detector” as recited in claims 1 or 16, nor detecting phase error as recited in claim 19, so that claims 1, 16 and 19 are allowable over Bojer in view of Banu. Claim 2 is allowable as depending upon an allowable base claim. Applicant respectfully requests withdrawal of this rejection.

CONCLUSION

Applicant respectfully submits that for the reasons recited above and for various other reasons, the rejections and objections have been overcome and should be withdrawn. Applicant respectfully submits therefore that the present application is in a condition for allowance and reconsideration is respectfully requested. Should this response be considered inadequate or non-responsive for any reason, or should the Examiner have any questions, comments or suggestions that would expedite the prosecution of the present case to allowance, Applicants' undersigned representative earnestly requests a telephone conference at (512) 474-7678.

Respectfully submitted,

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